



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/816,389	04/01/2004	Maged G. Botros	88-2070A;Cust.# 33967	9583

7590 09/20/2005

WILLIAM A. HEIDRICH
Equistar Chemicals, LP
11530 Northlake Drive
Cincinnati, OH 45249

EXAMINER

MULLIS, JEFFREY C

ART UNIT	PAPER NUMBER
----------	--------------

1711

DATE MAILED: 09/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/816,389

Applicant(s)

BOTROS ET AL.

Examiner

Jeffrey C. Mullis

Art Unit

1711

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,5-7,9,11 and 20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,5-7,9,11 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claim 6 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention.

The term "graft to melt flow ratio" of claim 6 is not art recognized and is therefore unclear. Furthermore a "graft" is not a number and cannot be part of a ratio. Lastly no units are recited for the said ratio of claim 6 and it is therefore unclear what said ratio embraces for this reason also.

The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3, 5-7, 9, 11 and 20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Chundury et al., cited above in view of Ross et al., cited by applicants.

Chundury in column 16 discloses a composition containing Profax homopolypropylene 6523, polycaprolactone and Exxon 99-26. The Exxon 99-26 is an ethylene-propylene copolymer containing 0.35% of maleic acid or anhydride. Note column 12 lines 1-7 in this regard. With regard to the Profax 6523, it is believed that this material has a melt flow rate of 4 and is known to be isotactic and as claims 2 and 3 recite polypropylene base resins whose non-isotactic content may be as great as 6%, i.e. substantial amounts of non-isotactic materials may be present, it would reasonably

appear that those skilled in the art would view a material described as isotactic polypropylene as embracing greater than 94 tacticity index.

Shin et al. (U.S. 6,303,682) disclose a composition containing "isotactic polypropylene" at column 3 line 44, an example of which is disclosed to be Profax 6523 at column 11 lines 25-40 where it is also disclosed that this material inherently has a melt flow rate of 4.

With regard to those claims such as claims 4 and 10 reciting a "reactor made intimate mixture", unpatented claims are given their broadest reasonable interpretation and any polymer is formed by chemical reactions, the apparatus in which it is formed can be said to be a chemical reactor. Therefore any mixture of polymers can be said to be a "reactor-made intimate mixture" so long as the materials are well mixed. Arguably the Profax of Chundury et al. does not have applicants' tacticity index and there are no examples in which grafting of the ethylene propylene copolymer of Chundury et al. takes place result in greater than 1% of graft monomer (although such materials are disclosed to be usable by Chundury et al. at column 11 lines 45-50) and patentees are silent regarding molecular weight distribution of their ethylene propylene copolymers.

Ross et al. is incorporated by reference in applicants' specification for its disclosure of reactor made polypropylene/ethylene propylene copolymers and therefore such materials presumably have applicants' characteristics. Ross et al. at the first complete paragraph on page 152 et seq. disclose that impact grade copolymers (i.e. blends of homopolypropylene and ethylene-propylene rubber) can be made more efficiently by their process than by previously known processes and have particularly high impact values at the last complete sentence on page 152. Note also the last complete paragraph on page 154 in column 1 where it is disclosed that the materials have a narrow molecular weight distribution. Use of patentees' propylene/ethylene

propylene copolymer blends or ethylene propylene copolymers in the process and composition of the primary reference would have been obvious to a practitioner having ordinary skill in the art at the time of the invention in order to extend the benefits cited by the secondary reference to the primary reference, namely higher efficiency and greater impact strength and conferral of characteristics of the propylene polymers of the secondary reference on those of the primary reference would have been obvious to a practitioner since such characteristics are necessarily associated with that of the materials of the secondary reference and motivated to extend the advantages cited by the secondary reference to the primary reference absent any showing of surprising or unexpected results.

Applicant's arguments filed 6-30-05 have been fully considered but they are not persuasive. With re to the election of species applicants remark that the "polymer species are not patentably distinct" is acknowledged and applicants admission is assumed accurate, although at present it does not appear that any claims need cancellation or other action due to applicants election of species.

With re to "graft to melt flow ratio", applicants argue that this number is unitless. However, melt flow rate is not unitless and as such "graft to melt flow ratio" should have the units of inverse melt flow rate.

With re to Chundry, applicants claims are not limited to non elastomeric grafts or those having low or zero ethylene content. With re to applicants argument that that patentees graft has only 0.43% maleic anhydride, patentees disclose examples of maleinated copolymers with 0.76 MA, within the metes and bounds of applicants 1 percent given the number of significant figures in "1" percent as recited by the claims. In any case column 11, lines 44-47 discloses preferably up to 5% grafting monomer may

Art Unit: 1711

be present. With re to "reactor made" whether or not reactor made materials are limited to those produced in a single polymerization operation is immaterial unless a materially different product results from such an operation since applicants claims are drawn to a product not a process. For this reason it is not clear that the teachings of Ross are needed at all to support a rejection under 35 USC 103 relying upon Chundry alone.

However, with re to Ross, the motivation to use Ross' materials in Chundrys process is the need for an ethylene propylene copolymer to produce the graft of Ross and by the secondary references disclosure of such a material which can be made with unusual efficiency. Benefits are strong motivations to modify the teachings of a reference and such modifications need not be made for the same reason as that of an applicant..

With re to applicants specific characteristics these would necessarily be associated with the reactor made ethylene propylene polymer and if those skilled in the art wished to modify the teachings of the primary reference for increased efficiency taught by Ross they would have to accept the characteristics inherent in the product of the secondary reference.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey Mullis whose telephone number is (571) 272-1075. The examiner can normally be reached on Monday-Friday from 9:30 to 6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck, can be reached on (571) 272-1078. The fax phone number for this Group is (703) 872-9306.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

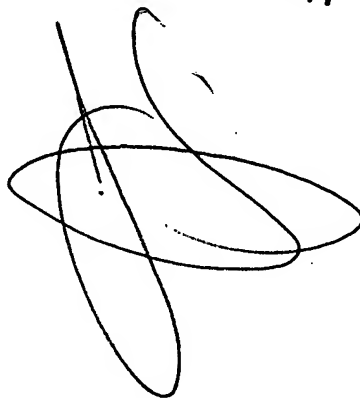
Art Unit: 1711

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

JCM

9-14-05

Jeffrey Mulla
Primary Examiner
Art Unit 1711

A handwritten signature in black ink, consisting of several overlapping loops and a long vertical stroke, positioned below the printed name and title.